

EEEEEEEEEEEE	RRRRRRRRRR	FFFFFFFFFF
EEEEEEEEEEEE	RRRRRRRRRR	FFFFFFFFFF
EEEEEEEEEEEE	RRRRRRRRRR	FFFFFFFFFF
EEE	RRR	FFF
EEEEEEEEEEEE	RRRRRRRRRR	FFFFFFFFFF
EEEEEEEEEEEE	RRRRRRRRRR	FFFFFFFFFF
EEEEEEEEEEEE	RRRRRRRRRR	FFFFFFFFFF
EEE	RRR	FFF
EEEEEEEEEEEE	RRR	FFF
EEEEEEEEEEEE	RRR	FFF
EEEEEEEEEEEE	RRR	FFF

0001 Subroutine TUB1_SENSE_BYTES_DECODE (lun)
0002
0003 C Version: 'V04-000'
0004 C
0005 C*****
0006 C*
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0024 C*
0025 C*
0026 C*****
0027 C
0028 C Author: Sharon Reynolds Creation Date: 5-Jul-1984
0029 C
0030 C Description:
0031 C
0032 C This routine decodes the device dependent information
0033 C for the TUB1 that is returned with a 'tape tranfer error'
0034 C packet.
0035 C
0036 C--
0037 C**
0038
0039 Include 'SRC\$:MSGHDR /nolist'
0098
0099
0100 Byte lun, code, extended_sense(0:15)
0101 Logical*1 bit
0102 Integer*4 COMPRESS4
0103 Equivalence (emb(82),extended_sense)
0104 Character*22 byte_0(0:7)
0105 Data byte_0(0) /'UNIT EXCEPTION'/
0106 Data byte_0(1) /'UNIT CHECK'/
0107 Data byte_0(3) /'DATA CHECK'/
0108 Data byte_0(4) /'EQUIPMENT CHECK'/
0109 Data byte_0(6) /'INTERVENTION REQUIRED'/
0110 Data byte_0(7) /'COMMAND REJECT'/
0111
0112
0113
0114
0115

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0116 Character*24 byte_1(0:7)
0117 Data byte_1(0)  /*DEVICE OFFLINE*/
0118 Data byte_1(1)  /*DEVICE NOT READY*/
0119 Data byte_1(3)  /*RESET KEY*/
0120 Data byte_1(4)  /*FILE PROTECTED*/
0121 Data byte_1(6)  /*DEVICE COMMAND CHECK*/
0122 Data byte_1(7)  /*ILLEGAL CHANNEL COMMAND*/
0123
0124 Character*23 byte_2(0:7)
0125 Data byte_2(0)  /*DEVICE INTERRUPT CHECK*/
0126 Data byte_2(1)  /*VELOCITY CHECK*/
0127 Data byte_2(2)  /*DEVICE HARDWARE CHECK*/
0128 Data byte_2(3)  /*DEVICE RESPONSE CHECK*/
0129 Data byte_2(4)  /*WRITE HARDWARE CHECK*/
0130 Data byte_2(5)  /*READ HARDWARE CHECK*/
0131 Data byte_2(6)  /*CHANNEL RESPONSE CHECK*/
0132 Data byte_2(7)  /*CHANNEL PARITY ERROR*/
0133
0134 Character*14 byte_3_prt1(0:2)
0135 Data byte_3_prt1(0) /*TAPE MOVED*/
0136 Data byte_3_prt1(1) /*BOT*/
0137 Data byte_3_prt1(2) /*UNRECOVERABLE*/
0138
0139 Character*16 byte_3_prt2(4:7)
0140 Data byte_3_prt2(4) /*ID FAULT*/
0141 Data byte_3_prt2(5) /*READ DATA CHECK*/
0142 Data byte_3_prt2(6) /*PE CRC CHECK*/
0143 Data byte_3_prt2(7) /*AGC FAULT*/
0144
0145 Character*26 byte_5(0:7)
0146 Data byte_5(0)  /*VARIABLE GAP MODE (SHORT)*/
0147 Data byte_5(1)  /*VARIABLE GAP MODE (LONG)*/
0148 Data byte_5(2)  /*START/STOP MODE*/
0149 Data byte_5(3)  /*DIAGNOSTIC MODE*/
0150 Data byte_5(4)  /*FILE MARK DETECTED*/
0151 Data byte_5(5)  /*AUTO SPEED MODE*/
0152 Data byte_5(6)  /*HIGH SPEED MODE*/
0153 Data byte_5(7)  /*GCR MODE*/
0154
0155 Character*33 byte_6(2:7)
0156 Data byte_6(2)  /*WRITE AUXILIARY CRC PARITY ERROR*/
0157 Data byte_6(4)  /*45 PARITY ERROR*/
0158 Data byte_6(5)  /*WRITE CRC PARITY ERROR*/
0159 Data byte_6(6)  /*RESIDUAL BYTE COUNT CHECK*/
0160 Data byte_6(7)  /*WRITE TRANSFER CHECK*/
0161
0162 Character*25 byte_7(0:7)
0163 Data byte_7(0)  /*EXCESSIVE POINTERS*/
0164 Data byte_7(1)  /*NO TRACK POINTER*/
0165 Data byte_7(2)  /*UNCORRECTABLE DATA*/
0166 Data byte_7(3)  /*ECC3 CHECK*/
0167 Data byte_7(4)  /*RESYNC CHECK*/
0168 Data byte_7(5)  /*READ AUXILIARY CRC CHECK*/
0169 Data byte_7(6)  /*READ CRC CHECK*/
0170 Data byte_7(7)  /*RESIDUAL CHECK*/
0171
0172 Character*22 byte_8(0:7)

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0173 Data byte_8(0)      /*ARA ID CHECK*/
0174 Data byte_8(1)      /*ARA BURST CHECK*/
0175 Data byte_8(2)      /*ID CHECK*/
0176 Data byte_8(3)      /*WRITE TAPE MARK CHECK*/
0177 Data byte_8(4)      /*READ TIME OUT*/
0178 Data byte_8(5)      /*SKEW ERROR*/
0179 Data byte_8(6)      /*POSTAMBLE ERROR*/
0180 Data byte_8(7)      /*NOISE CHECK*/
0181
0182 Character*29 byte_9(0:7)
0183 Data byte_9(0)      /*TRACK IN ERROR PARITY BIT = */
0184 Data byte_9(1)      /*SINGLE TRACK CORRECTABLE*/
0185 Data byte_9(2)      /*DUAL TRACK CORRECTABLE*/
0186 Data byte_9(3)      /*END MARK CHECK*/
0187 Data byte_9(4)      /*READ DATA PARITY ERROR*/
0188 Data byte_9(5)      /*READ TRANSFER CHECK*/
0189 Data byte_9(6)      /*READ BUFFER IN PARITY ERROR*/
0190 Data byte_9(7)      /*EC HARDWARE CHECK*/
0191
0192 Character*1 byte_10(0:7)
0193 Data byte_10(0)     /*2*/
0194 Data byte_10(1)     /*8*/
0195 Data byte_10(2)     /*1*/
0196 Data byte_10(3)     /*9*/
0197 Data byte_10(4)     /*3*/
0198 Data byte_10(5)     /*5*/
0199 Data byte_10(6)     /*6*/
0200 Data byte_10(7)     /*7*/
0201
0202 Character*15 byte_11(0:7)
0203 Data byte_11(0)     /*EOT*/
0204 Data byte_11(1)     /*BOT*/
0205 Data byte_11(2)     /*HIGH SPEED*/
0206 Data byte_11(3)     /*GAP CONTROL*/
0207 Data byte_11(4)     /*FILE PROTECTED*/
0208 Data byte_11(5)     /*REWIND*/
0209 Data byte_11(6)     /*ONLINE*/
0210 Data byte_11(7)     /*READY*/
0211
0212 Character*9 byte_12(2:7)
0213 Data byte_12(2)     /*S/S MODE*/
0214 Data byte_12(3)     /*LONG GAP*/
0215 Data byte_12(4)     /*GCR*/
0216 Data byte_12(5)     /*DSE*/
0217 Data byte_12(6)     /*WRITE*/
0218 Data byte_12(7)     /*REVERSE*/
0219
0220 Character*22 byte_13(0:7)
0221 Data byte_13(0)     /*AIR FLOW/TEMP CHECK*/
0222 Data byte_13(1)     /*REVERSE IN BOT*/
0223 Data byte_13(2)     /*RESET KEY*/
0224 Data byte_13(3)     /*AGC CHECK*/
0225 Data byte_13(4)     /*DENSITY CHANGE*/
0226 Data byte_13(5)     /*DIAGNOSTIC REQUEST*/
0227 Data byte_13(6)     /*INTERVENTION REQUIRED*/
0228 Data byte_13(7)     /*COMMAND REJECT*/
0229

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```
0230  C Output the extended sense information header.  
0231  C  
0232  5      Write (lun,5) 'TU81 EXTENDED SENSE INFORMATION'  
0233  Format ('/''',A31,/) 06  
0234 06  
0235 06  
0236  C Decode and output byte 0 of the extended sense information.  
0237  C  
0238 10     Write (lun,10) 'BYTE 0', extended_sense(0)  
0239  Format ('/''',T8,A,T24,Z2.2) 06  
0240 06  
0241  Call OUTPUT (lun,extended_sense(0),byte_0, 0, 0, 7, '0') 06  
0242 06  
0243 06  
0244  C Decode and output byte 1 of the extended sense information.  
0245  C  
0246 06  
0247  Call OUTPUT (lun,extended_sense(1),byte_1, 0, 0, 7, '0') 06  
0248 06  
0249  C Decode and output byte 2 of the extended sense information.  
0250  C  
0251 06  
0252  Call OUTPUT (lun,extended_sense(2),byte_2, 0, 0, 7, '0') 06  
0253 06  
0254 06  
0255  C Decode and output byte 3 of the extended sense information.  
0256  C  
0257 06  
0258 06  
0259  Call OUTPUT (lun,extended_sense(3),byte_3_prt1, 0, 0, 2, '0') 06  
0260  Call OUTPUT (lun,extended_sense(3),byte_3_prt2, 4, 4, 7, '0') 06  
0261 06  
0262 06  
0263  C Decode and output byte 4 of the extended sense information.  
0264  C  
0265 06  
0266 06  
0267 20     Write (lun,20) 'FORMATTER COMMAND CODE = ', extended_sense(4)  
0268  Format ('/''',T40,A25,Z2.2,'(X)') 06  
0269 06  
0270 06  
0271  C Decode and output byte 5 of the extended sense information.  
0272  C  
0273 06  
0274  Call OUTPUT (lun,extended_sense(5),byte_5, 0, 0, 7, '0') 06  
0275 06  
0276 06  
0277  C Decode and output byte 6 of the extended sense information.  
0278  C  
0279 06  
0280  Call OUTPUT (lun,extended_sense(6),byte_6, 2, 2, 7, '0') 06  
0281 06  
0282 06  
0283  C Decode and output byte 7 of the extended sense information.  
0284  C  
0285 06  
0286  Call OUTPUT (lun,extended_sense(7),byte_7, 0, 0, 7, '0') 06
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0287
0288
0289 C Decode and output byte 8 of the extended sense information.
0290 C
0291     Write (lun,10) 'BYTE 8', extended_sense(8)
0292     Call OUTPUTf (lun,extended_sense(8),byte_8, 0, 0, 7, '0')
0293
0294
0295 C Decode and output byte 9 of the extended sense information.
0296 C
0297     Write (lun,10) 'BYTE 9', extended_sense(9)
0298     Call OUTPUTf (lun,extended_sense(9),byte_9, 0, 0, 7, '0')
0299
0300
0301 C Decode and output byte 10 of the extended sense information.
0302 C
0303     Write (lun,25) 'BYTE 10', extended_sense(10)
0304     Format (' ',T8,A,T24,Z2.2)
0305
0306     If (extended_sense(10) .NE. 0) then
0307
0308         Do 27, I=0,7
0309
0310         Bit = LIB$EXTZV (I,1,extended_sense(10))
0311         If (bit) then
0312             Call LINCHK (lun,1)
0313             Write (lun,26) 'TRACK IN ERROR = ', byte_10(I)
0314             Format (' ',T40,A17,A1,'.')
0315         Endif
0316
0317     27     Continue
0318     Endif
0319
0320 C Decode and output byte 11 of the extended sense information.
0321 C
0322     Write (lun,10) 'BYTE 11', extended_sense(11)
0323     Call OUTPUTf (lun,extended_sense(11),byte_11, 0, 0, 7, '0')
0324
0325
0326 C Decode and output byte 12 of the extended sense information.
0327 C
0328     Write (lun,10) 'BYTE 12', extended_sense(12)
0329     Call OUTPUTf (lun,extended_sense(12),byte_12, 2, 2, 7, '0')
0330
0331
0332 C Decode and output byte 13 of the extended sense information.
0333 C
0334     Write (lun,10) 'BYTE 13', extended_sense(13)
0335     Call OUTPUTf (lun,extended_sense(13),byte_13, 0, 0, 7, '0')
0336
0337
0338 C Decode and output byte 14 of the extended sense information.
0339 C
0340     Write (lun,28) 'BYTE 14', extended_sense(14), 'COMMAND CODE'
0341     Format (' ',T8,A,T24,Z2.2,/,T40,A12)
0342
0343 C Decode and output byte 15 of the extended sense information.

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0344  C
0345  30      Write (lun,30) 'BYTE 15', extended_sense(15), 'MARGINAL CONDITION CODE'
0346  Format ('',T8,A,T24,Z2.2/,T40,A23)
0347
0348
0349  End

```

PROGRAM SECTIONS

Name	Bytes	Attributes
0 \$CODE	1142	PIC CON REL LCL SHR EXE RD NOWRT LONG
1 \$PDATA	327	PIC CON REL LCL SHR NOEXE RD NOWRT LONG
2 \$LOCAL	3084	PIC CON REL LCL NOSHR NOEXE RD WRT LONG
3 EMB	512	PIC OVR REL GBL SHR NOEXE RD WRT LONG
Total Space Allocated	5065	

ENTRY POINTS

Address	Type	Name
0-00000000		TUB1_SENSE_BYTES_DECODE

VARIABLES

Address	Type	Name	Address	Type	Name
2-000007EF	L*1	BIT	2-000007EE	L*1	CODE
2-000007F0	I*4	COMPRESS4	3-00000000	I*4	EMBSL_HD_SID
3-00000004	I*2	EMBSW_HD_ENTRY	3-0000000E	I*2	EMBSW_HD_ERRSEQ
2-000007F4	I*4	I	AP-00000004a	L*1	LUN

ARRAYS

Address	Type	Name	Bytes	Dimensions
2-00000000	CHAR	BYTE_0	176	(0:7)
2-000000B0	CHAR	BYTE_1	192	(0:7)
2-00000688	CHAR	BYTE_10	8	(0:7)
2-00000690	CHAR	BYTE_11	120	(0:7)
2-00000708	CHAR	BYTE_12	54	(2:7)
2-0000073E	CHAR	BYTE_13	176	(0:7)
2-00000170	CHAR	BYTE_2	184	(0:7)
2-00000228	CHAR	BYTE_3_PRT1	42	(0:2)
2-00000252	CHAR	BYTE_3_PRT2	64	(4:7)
2-00000292	CHAR	BYTE_5	208	(0:7)
2-00000362	CHAR	BYTE_6	198	(2:7)
2-00000428	CHAR	BYTE_7	200	(0:7)
2-000004F0	CHAR	BYTE_8	176	(0:7)
2-000005A0	CHAR	BYTE_9	232	(0:7)

TUB1_SENSE_BYTES_DECODE

N 10

16-Sep-1984 00:16:37
5-Sep-1984 14:24:01

VAX-11 FORTRAN V3.4-56

DISK\$VMSMASTER:[ERF.SRC]TUB1SENSE.FOR;1

Page 7

3-00000000 L*1 EMB
3-00000006 I*4 EMB\$Q HD_TIME
3-00000052 L*1 EXTENDED_SENSE

512 (0:511)
8 (2)
16 (0:15)

LABELS

Address	Label	Address	Label								
1-000000E8	5'	1-000000F0	10'	1-000000FC	20'	1-0000010C	25'	1-00000118	26'	**	27
1-00000125	28'	1-00000136	30'								

FUNCTIONS AND SUBROUTINES REFERENCED

Type	Name	Type	Name	Type	Name
I*4	LIB\$EXTZV		LINCHK		OUTPUT

COMMAND QUALIFIERS

FORTRAN /LIS=LISS:TUB1SENSE/OBJ=OBJS:TUB1SENSE MSRC\$:TUB1SENSE
/CHECK=(NOBOUNDS,OVERFLOW,NOUNDERFLOW)
/DEBUG=(NOSYMBOLS,TRACEBACK)
/STANDARD=(NOSYNTAX,NOSOURCE FORM)
/SHOW=(NOPREPROCESSOR,NOINCLUDE,MAP)
/F77 /NOG_FLOATING /I4 /OPTIMIZE /WARNINGS /NOD_LINES /NOCROSS_REFERENCE /NOMACHINE_CODE /CONTINUATIONS=19

COMPILE STATISTICS

Run Time: 4.30 seconds
Elapsed Time: 13.08 seconds
Page Faults: 169
Dynamic Memory: 185 pages

0154 AH-BT13A-SE
VAX/VMS V4.0

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